



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,256	12/19/2001	Bret S. Weber	01-674	5721

24319 7590 12/05/2005

LSI LOGIC CORPORATION
1621 BARBER LANE
MS: D-106
MILPITAS, CA 95035

EXAMINER

SORRELL, ERON J

ART UNIT PAPER NUMBER

2182

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,256

Applicant(s)

WEBER ET AL.

Examiner

Eron J. Sorrell

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-26 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1-26 recite the phrase "capable of," in the claim limitations. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation (See MPEP 2106). Furthermore, it is unclear what the Applicant's intended metes and bounds of the claim are, since the claim appears to cover anything and everything that does not prohibit actions from occurring.

4. Claim 19 recites the limitation "the automatic control means" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2182

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6, 7, 10, 12-14, 17-19, 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samela et al. (U.S. Patent No. 6,217,228 hereinafter "Samela") in view of Briel et al. (U.S. Patent No. 6,119,183 hereinafter "Briel").

7. Referring to claims 1 and 17, Samela teaches an apparatus for dual porting a serial disk drive (see fig 2), comprising:

a first idle regenerator capable of transmitting and receiving an idle character stream from a first serial master device (see item 50 on the left side of figure 2);

a second idle regenerator capable of transmitting and receiving an idle character stream from a first serial master device (see item 50 on the right side of figure 2);

Art Unit: 2182

a third idle regenerator connected to the serial disk drive (see item 26 in figure 2) and the first and second idle regenerators, wherein the third idle regenerator is capable of communicating with the serial disk drive and the first and second idle regenerators (see lines 47-65 of column 5);

Samela fails to teach the first and second idle regenerators are coupled respectively to first and second serial master devices. Samela is also silent regarding synchronization logic capable of synchronizing data transfers between one of the first and second idle regenerator, and the third idle regenerator, wherein the synchronization logic is connected to the first, second, and third regenerators.

Briel teaches, in an analogous system, first and second idle regenerators (see items 20 in figure 1) are coupled respectively to first and second serial master devices (see items 12a and 12b in figure 1) and synchronization logic capable of synchronizing data transfers between one of the first and second idle regenerator, and the third idle regenerator, wherein the synchronization logic is connected to the first, second, and third regenerators (see lines 25-52 of column 4).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Samela with the above teachings of Briel. One of

Art Unit: 2182

ordinary skill in the art would have been motivated to make such modification in order to selectively coupled one of a plurality of initiators to a target device, while the other initiators are made aware of the current unavailability of the target as suggested by Briel (see lines 4-15 of column 3).

8. Referring to claims 2-4,12,18,19, and 24 Briel teaches the device further comprising, an auto detector (see items 16a and 16b) connected to the first and second connected to the first and second idle regenerators, wherein the auto detector is capable of controlling data transfer to the first and second idle regenerators based on the presence of idle characters from the first and second serial master devices (see paragraph bridging columns 4 and 5), and the auto detector is capable of switching between the first and second serial masters, wherein the auto detector enables communication with a single serial master at a time (see lines 38-52 of column 4).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Samela with the above teachings of Briel for the same reasons as mentioned in the rejections of claim 1, supra.

Art Unit: 2182

9. Referring to claims 6,13, and 21 Samela teaches the dual porting apparatus is suitable for utilization with fibre channel based communications (see lines 48-54 of column 5).

10. Referring to claims 7 and 14, Briel teaches the synchronization logic is capable of providing synchronization for the idle character switching (see 38-52 of column 4).

11. Referring to claims 10 and 23 Samela teaches an apparatus for dual porting a serial disk drive (see fig 2), comprising:

a first idle regenerator capable of transmitting and receiving an idle character stream from a first serial master device (see item 50 on the left side of figure 2);

a second idle regenerator capable of transmitting and receiving an idle character stream from a first serial master device (see item 50 on the right side of figure 2);

a third idle regenerator connected to the serial disk drive (see item 26 in figure 2) and the first and second idle regenerators, wherein the third idle regenerator is capable of communicating with the serial disk drive and the first and second idle regenerators (see lines 47-65 of column 5);

Samela fails to teach the first and second idle regenerators are coupled respectively to first and second serial

Art Unit: 2182

master devices and synchronization logic capable of synchronizing data transfers between one of the first and second idle regenerator, and the third idle regenerator, wherein the synchronization logic is connected to the first, second, and third regenerators. Samela is also silent regarding auto detector connected to the first and second connected to the first and second idle regenerators, wherein the auto detector is capable of controlling data transfer to the first and second idle regenerators based on the presence of idle characters from the first and second serial master devices.

Briel teaches, in an analogous system, first and second idle regenerators (see items 20 in figure 1) are coupled respectively to first and second serial master devices (see items 12a and 12b in figure 1) and synchronization logic capable of synchronizing data transfers between one of the first and second idle regenerator, and the third idle regenerator, wherein the synchronization logic is connected to the first, second, and third regenerators (see lines 25-52 of column 4) and an auto detector (see items 16a and 16b) connected to the first and second connected to the first and second idle regenerators, wherein the auto detector is capable of controlling data transfer to the first and second idle regenerators based on the

Art Unit: 2182

presence of idle characters from the first and second serial master devices (see paragraph bridging columns 4 and 5).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Samela with the above teachings of Briel. One of ordinary skill in the art would have been motivated to make such modification in order to selectively coupled one of a plurality of initiator to a target device, while the other initiators are made aware of the current unavailability of the target as suggested by Briel (see lines 4-15 of column 3).

12. Claims 5,11, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samela in view of Briel as applied to claims 1,10,17, and 23 above and further in view of Applicant's Admitted Prior Art (AAPA).

13. Referring to claims 5,11,20 the combination of Samela and Briel fails to teach the dual porting apparatus being suitable for utilization with a serial advanced technology attachment disk drive.

At page 2, paragraph 3 of the instant application, the applicant admits SATA drives are widely used in the art as a cost saving measure.

Art Unit: 2182

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Samela and Briel with the above teachings from AAPA. One of ordinary skill would have been motivated to make such modification in order to cut costs.

14. Claims 8,15,22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samela in view of Briel as applied to claims 1,10,17, and 23 above and further in view Newton's Telecom Dictionary.

15. Referring to claims 8,15,22, and 25 the combination of Samela and Briel fails to teach the dual porting apparatus being embodied as an application specific integrated circuit.

Newton's Telecom Dictionary teaches incorporating entire systems on a single chip and discloses that doing so is a method of increasing design productivity (see definition of SOC on page 682).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Samela and Briel with the above teachings from Newton's Telecom Dictionary. One of ordinary skill would have

Art Unit: 2182

been motivated to make such modification in order to increase design productivity as suggested by Newton's Telecom Dictionary.

16. Claims 9,16, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samela in view of Briel as applied to claims 1,10,17, and 23 above and further in view of Shikano (U.S. Patent No. 5,689,401).

17. Referring to claim 9,16, and 26 the combination of Samela and Briel fails to teach the dual porting apparatus is integrated within the disk drive.

Shikano teaches the above limitation (see lines 15-36 of column 4).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Samela and Briel with the above teachings of Shikano. One of ordinary skill in the art would have been motivated to make such modification to minimize damage to the printed circuit board when a connected is inserted or removed as suggested by Shikano (see lines 62-65 of column 2).

Response to Arguments

18. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following U.S. Patent is cited to further show the state of the art as it pertains to idle character streams:

U.S. Patent No. 5,450,073 to Brown et al. teaches a method and system wherein idle character streams are sent during periods of inactivity to maintain synchronism between devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J. Sorrell whose telephone number is 571 272-4160. The examiner can normally be reached on Monday-Friday 8:00AM - 4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2182

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EJS

November 22, 2005



KIM HUYNH
PRIMARY EXAMINER
11/25/05